

### **Amendments to the Drawings**

In Figs. 1a and 1b, the designation of “Prior Art” has been added to the figure legends.

Attachment

Replacement Sheet

## **REMARKS**

The Examiner is thanked for the thorough examination of the present application. The Office Action, however, continued to reject all claims 1-19. In response, Applicant submits the foregoing amendments and the following remarks.

### **Drawings**

The drawings are objected to. First, the Office Action indicated that FIGs 1a and 1b should be amended to add the designation of “Prior Art” to the legend. Applicant has amended these figures accordingly. Second, the Office Action stated that the “transmitting system 300” is not labeled in Figures 3, 5, and 7. This objection is rendered moot by amendments made to the specification. Numbering and component designation is now consistent between the specification and drawings.

The legend “transmitting system 300” is only applicable in Fig. 3, whereas “transmitting system 500” and “transmitting system 700” for Fig. 5 and Fig. 7, respectively. Therefore, Applicant believes that there is no confusion caused and no need to have Fig. 5 and Fig. 7 labeled as “transmitting system 300”.

In addition, for Fig. 5, it is described that “FIG. 5 illustrates a transmitting system applicable in the image method according to the second embodiment. *Most of the devices of the transmitting system 500 perform the same functions as that of the transmitting system 300.* ( lines 3-7 of page 10)”. According to above description, the transmitting system 500 just has the same function as transmitting system 300 (of Fig. 3). The specification has been amended to make this more clear.

In addition, for Fig. 7, it is described that “FIG. 7 illustrates a transmitting system applicable in the image method according to the third embodiment. Most of the devices of the transmitting system 700 perform the same functions as that of the transmitting system 300. ( lines 25-29 of page 11)”. According to above description, the transmitting system 700 just has the same function as transmitting system 300. The specification has been amended to make this more clear.

### **In the Specification**

Applicant has amended the specification to correct the spelling of the word MPEG (paragraph beginning on page 7, line 13). Other amendments to the specification have been made to address inconsistencies or omissions between the specification and drawings.

### **Claim objection**

The Office Action objected to claim 10, because the acronym MPEG was misspelled. Applicant has amended claim 10 to correct this. Applicant has also amended claim 19 to make a similar correction.

### **Claim Amendments**

Claims 1-23 remain in this application. Claim 1 has been amended by adding the feature “signals transmitted from” following “image display quality of.”

Claim 11 has been amended by (1) adding “an image encoding device for compressing a first image signal of the first channel and a second image signal of the

second channel by a predetermined compression method, wherein the compressed first image signal and the compressed second image signal are selectively transmitted by the transmitting system”, by (2) replacing “a first channel to a second channel, wherein a first image signal and a second image signal” with “*the* first channel to *the* second channel, wherein *the* first image signal and *the* second image signal” and (3) “the first image signal and transmitting the preset image signal instead, and starting transmission of the second image signal” with “the *compressed* first image signal and transmitting a preset image signal instead, and starting transmission of the *compressed* second image signal”. Support for this amendment is shown in lines 14-17 of page 7, wherein “*The image-encoding device 312 is used to compress the digitized first or second image signal by a predetermined compression method*”.

Claim 17 has been amended. Support for this amendment is shown in lines 14-17 of page 7, wherein “*The image-encoding device 312 is used to compress the digitized first or second image signal by a predetermined compression method*”.

Claims 10 and 19 have been amended by replacing “MEPG” with “MPEG”.

Claims 20 and 21 have been added. Support for this amendment is shown in line 26 of page 7 to line 2 of page 8 in this specification, wherein “*The receiving module 302 is used to receive the request signal for channel conversion from an infrared remote controller (not shown). The request may also be received by the receiving terminal and then wirelessly transmitted to the transmitting system 300.*”

Claims 22 and 23 have been added. Support for this amendment is shown in lines 17-18 of page 7 in this specification, wherein “*the method comprising the steps of*

*stopping transmission of the first image signal(including stopping compression of the digitized first image signal)".*

## **Discussion of Claim Rejections**

### **35 U.S.C. 102(b)**

Claims 1-2, 5, and 11 are rejected under 35 U.S.C. 102(b) as allegedly being unpatentable over Tsuria, US Patent No. 5,786,845. Applicant respectfully requests reconsideration and withdrawal of the rejections for at least the reasons that follow.

"A claim is anticipated only if each and every element as set forth in the claim is found, either expressly or inherently described, in a single prior art reference."

*Verdegaal Bros. v. Union Oil Co. of California*, 814 F.2d 628, 631, 2 USPQ2d 1051, 1053 (Fed. Cir. 1987).

Claim 1, as amended, recites:

1. An image processing method able to ***maintain the image display quality of signals transmitted from a transmitting system during a channel conversion from a first channel to a second channel***, wherein a first image signal and a second image signal are respectively transmitted to the transmitting system from the first channel and the second channel, comprising the steps of:

***(A) sending a channel conversion request to the transmitting system;***

***(B) controlling the transmitting system to stop transmitting the first image signal and start to transmit a preset image signal; and***

***(C) stopping transmission of the preset image signal, and starting transmission of the second image signal.***

(*Emphasis added*). Among other defining features, **Tsuria does not disclose or suggest** maintaining the image display quality of a transmitting system during a channel conversion from a first channel to a second channel.

In this application, the image processing method is for maintaining the image display quality of signals transmitted from a *transmitting system* during a channel conversion from a first channel to a second channel. In Tsuria, however, there is disclosed a method for providing information messages during channel changing interval on *television reception* (see claim 13 of Tsuria), not on a *transmitting system* as described in this application. Fig. 1 in recitation is the other evidence showing a block diagram of CATV system in which the information-providing method is applicable. Thus, the information-providing method taught by Tsuria is simply not applicable to the claims of this application. Applicant realizes that preamble limitations are not always considered limitations on a claim. However, the preamble is limiting to the extent that it defines the environment of the claim, or otherwise breathes life and meaning into the claim. Consequently, this fundamental aspect of the claimed embodiments should be considered a defining limitation, which further distinguishes claim 1 over the cited art.

For at least this reason, the rejection of claim 1 should be withdrawn.

**In addition, Tsuria does not disclose or suggest** *sending a channel conversion request to the transmitting system.*

The Office Action contends that Tsuria teaches the above feature by referring to “sensing channel-changing operation at a *television receiver* (column 2, lines 9-11)”. However, Applicant disagrees that Tsuria teaches or suggests the method of *sending a channel conversion request to the transmitting system.*

In Tsuria, according to the Fig. 1 and the abstract “A television receiver assembly including a multi-channel television signal decoder coupled to a source of incoming

television signals, a multi-channel television display coupled to the decoder for displaying received decoded television signals, a channel changing device operative to change the channel decoded by the decoder and displayed by the display, the channel changing device being inoperative to display received decoded television signals during a channel changing interval, and an interval message provider operative to display at least one predetermined information message during the channel changing interval”, the channel-changing operation is received by a *television receiver*, not a *transmitting system* as taught in this application. Therefore, the skill, operation, or function of *sending a channel conversion request to the transmitting system* is neither taught nor suggested in Tsuria. For at least this additional reason, the rejection of claim 1 should be withdrawn.

**In addition, Tsuria does not disclose or suggest** *(B) controlling the transmitting system to stop transmitting the first image signal and start to transmit a preset image signal; and (C) stopping transmission of the preset image signal, and starting transmission of the second image signal.*

The Office Action contends that Tsuria teaches the above features. However, Applicant respectfully disagrees that Tsuria teaches or suggests the method of *(B) controlling the transmitting system to stop transmitting the first image signal and start to transmit a preset image signal; and (C) stopping transmission of the preset image signal, and starting transmission of the second image signal.*

In Tsuria, it is disclosed that “*Regular CATV programming and zapping time information may be transmitted simultaneously over a CATV network (column 4, lines 35-37)*”; whereas, this application teaches controlling the transmitting system to stop

transmitting the first image signal and start to transmit a preset image signal, meaning that *the first image signal and preset image signal are not transmitted simultaneously*. The same, this application teaches *stopping transmission of the preset image signal, and starting transmission of the second image signal*, meaning that *the preset image signal and second image signal are not transmitted simultaneously*. Therefore, the method of (B) *controlling the transmitting system to stop transmitting the first image signal and start to transmit a preset image signal; and (C) stopping transmission of the preset image signal, and starting transmission of the second image signal* is neither taught nor suggested in Tsuria.

For at least these additional reasons, claim 1 is allowable over the cited reference. Insofar as claims 2-10 depend from claim 1, the rejections of these claims should be withdrawn for at least the same reasons.

Claim 11, as amended, recites:

11. A transmitting system, comprising:  
a receiving module for receiving a channel conversion request;  
an image encoding device for compressing a first image signal of a first channel and a second image signal of a second channel by a predetermined compression method, wherein the compressed first image signal and the compressed second image signal are selectively transmitted by the transmitting system;  
a tuner for channel conversion from the first channel to the second channel, wherein the first image signal and the second image signal are respectively transmitted to the transmitting system from the first channel and the second channel;  
**a controlling device to control the tuner for channel conversion according to the channel conversion request, stopping transmission of the compressed first image signal and transmitting a preset image signal instead, and starting transmission of the compressed second image signal after stopping transmission of the preset image signal; and**



a storage device in the transmitter for storing the preset image signal.

(*Emphasis added*). Claim 11 patently defines over the cited art for at least the reason that **Tsuria does not disclose or suggest** a transmitting system comprising a receiving module for receiving a channel conversion request; an image encoding device for compressing a first image signal of a first channel and a second image signal of a second channel by a predetermined compression method, wherein the compressed first image signal and the compressed second image signal are selectively transmitted by the transmitting system; a tuner for channel conversion from the first channel to the second channel, wherein the first image signal and the second image signal are respectively transmitted to the transmitting system from the first channel and the second channel; a controlling device to control the tuner for channel conversion according to the channel conversion request, stopping transmission of the compressed first image signal and transmitting a preset image signal instead, and starting transmission of the compressed second image signal after stopping transmission of the preset image signal; and a storage device in the transmitter for storing the preset image signal.

The Examiner contends that Tsuria teaches the above features. However, Applicant respectfully disagrees. In Tsuria, CATV source 15 is a transmitter corresponding to the transmitting system disclosed in this application. According to Tsuria, CATV source 15 is used to transmit video and audio signals to each of the subscriber units (column 2, lines 51-52), but it doesn't comprise *a receiving module for receiving a channel conversion request, a tuner for channel conversion from a first channel to a second channel, a controlling device to control the tuner for channel conversion according to the channel conversion request, stopping transmission of the*

*first image signal and transmitting the preset image signal instead, and starting transmission of the second image signal after stopping transmission of the preset image signal and a storage device for storing the preset image signal, as disclosed in this application. Instead, the receiver, tuner and storage device taught in Tsuria belong to the CATV converter, which is a component on TV reception (see Fig. 1), and not on a transmitting system. Therefore, all features of claim 11 are neither taught nor suggested in Tsuria. For at least this reason, Applicant believes that claim 11 is allowable over the cited reference.*

Insofar as claims 12-19 depend from claim 11, the rejections of these claims should be withdrawn for at least the same reasons.

### **Dependent Claims**

The various dependent claims patently define over the cited art for at least the same reasons as the independent claims from which they depend. In addition, Applicant notes the following additional distinctions.

Claim 2, depending from claim 1, recites the image processing method of claim 1, further recites (D) determining whether the transmitting system is ready for the channel conversion from the first channel to the second channel; and (E) if the transmitting system is ready for the channel conversion, stopping transmission of the preset image signal, and starting transmission of the second image signal.

**Tsuria does not disclose or suggest** *determining whether the transmitting system is ready for the channel conversion from the first channel to the second channel.*

The Office Action contends that Tsuria teaches the above feature by referring to “the zapping information is displayed until the television is tuned to the second channel

(column 4, lines 43-51)". However, Applicant disagrees that Tsuria teaches or suggests the above feature since the recitation only discloses that the zapping information is to be displayed during the channel switching, it has nothing to do with *determining whether the transmitting system is ready for the channel conversion from the first channel to the second channel*. Therefore, the method of *determining whether the transmitting system is ready for the channel conversion from the first channel to the second channel* is neither taught nor suggested in Tsuria. For at least this additional reason, claim 2 is allowable over the cited reference.

**In addition, Tsuria does not disclose or suggest** *if the transmitting system is ready for the channel conversion*, stopping transmission of the preset image signal, and starting transmission of the second image signal.

The Office Action contends that Tsuria teaches the above feature by referring to "When the subscriber switches to another channel, display of the regular CATV programming associated with the channel previously viewed ceases and the zapping time information is displayed until the television is tuned to the channel to which the subscriber has switched. Then, display of the zapping time information ceases and the regular programming associated with the channel to which the subscriber has switched is displayed (column 4, lines 44-51)".

However, Applicant respectfully disagrees that Tsuria teaches or suggests stopping transmission of the preset image signal and starting transmission of the second image signal *when the transmitting system is ready for the channel conversion* because the step of *determining whether the transmitting system is ready for the channel conversion* is neither taught nor suggested in Tsuria.

For at least this reason, claim 2 is allowable over the cited reference.

### **Rejections Under 35 U.S.C. 103(a)**

Claims 3-4, 12-13 are rejected under 35 U.S.C. 103(a) as allegedly being unpatentable over Tsuria, US-Patent No. 5,786,845, in view of Suh, US Patent No. 7,257,261. Applicant respectfully disagrees with this rejection for at least the following additional reasons.

In order for a claim to be properly rejected under 35 U.S.C. 103, the teachings of the prior art reference must suggest all features of the claimed invention to one of ordinary skill in the art. See, e.g., *In re Dow Chemical*, 837 F.2d 469, 5 U.S.P.Q.2d 1529, 1531 (Fed. Cir. 1988); *In re Keller*, 642 F.2d 413, 208 U.S.P.Q. 871, 881 (C.C.P.A. 1981).

Claim 3, depending from claim 2, recites the image processing method of claim 2, further recites the step (D) further comprises the step of: (F) detecting the stability of the second image signal by a detector, and converting the channel from the first channel to the second channel after the second image signal is stable.

**Neither Tsuria nor Suh teaches, discloses or suggests** converting the channel from the first channel to the second channel *after the second image signal is stable*.

The Office Action contends that Suh teaches the above feature by referring to “the first portion of the video stream is determined to be stable when the difference between the first reduced frame and the second reduced frame does not exceed the

first threshold, such that the sample frame is a visual representation of said plurality of frames in the first portion (claim 2 in Suh)".

However, the recitations do not teach or suggest "converting the channel from the first channel to the second channel *after the second image signal is stable*", even though that Suh teaches a method concerning whether the video stream is determined stable. In other words, the condition of second image signal having to be stable before converting channel is not disclosed. Therefore, the method of converting the channel from the first channel to the second channel *after the second image signal is stable* is not suggested in Tsuria and Suh.

For this additional reason, claim 3 is allowable over the cited references.

Claim 12, depending from claim 11, recites the transmitting system of claim 11, further recites a detector for detecting the stability of the second image signal, and the channel is converted from the first channel to the second channel after the second image signal is stable. **Neither Tsuria nor Suh teaches, discloses or suggests** the channel is converted from the first channel to the second channel *after the second image signal is stable*.

The Office Action contends that Suh teaches the above feature by referring to "the first portion of the video stream is determined to be stable when the difference between the first reduced frame and the second reduced frame does not exceed the first threshold, such that the sample frame is a visual representation of said plurality of frames in the first portion (claim 2 in Suh)".

In Suh, the recitation teaches a method of determining whether the image signal (video stream) is stable. However, Tsuria and Suh do not teach or suggest “the channel is converted from the first channel to the second channel *after the second image signal is stable*”. In other words, the condition of second image signal having to be stable before converting channel is not disclosed. Therefore, the method of that the channel is converted from the first channel to the second channel *after the second image signal is stable* is not suggested in Tsuria and Suh.

For this additional reason, claim 12 is allowable over the cited references.

Claim 4, depending from claim 2, recites the image processing method of claim 2, further recites the step (D) further comprises the step of: (G) comparing the deviation among a plurality of continuous images of the second image signal, and converting the channel from the first channel to the second channel after the deviation is less than a predetermined value. **Neither Tsuria nor Suh teaches, discloses or suggests** converting the channel from the first channel to the second channel *after the deviation is less than a predetermined value*.

The Office Action contends that Suh teaches the above feature by referring to “the first portion of the video stream is determined to be stable when the difference between the first reduced frame and the second reduced frame does not exceed the first threshold, such that the sample frame is a visual representation of said plurality of frames in the first portion (claim 2 in Suh)”.

In Suh, the recitation teaches a method of determining whether the image signal (video stream) is stable. However, Tsuria and Suh do not teach or suggest “converting

the channel from the first channel to the second channel *after the deviation is less than a predetermined value*". In other words, the condition of the deviation having to be less than a predetermined value before converting channel is not disclosed in Tsuria and Suh. Therefore, the method of converting the channel from the first channel to the second channel *after the deviation is less than a predetermined value* is not suggested in Tsuria and Suh.

For this additional reason, claim 4 is allowable over the cited references.

Claim 13, depending from claim 11, recites the transmitting system of claim 11, further recites a comparator for comparing the deviation among a plurality of continuous images of the second image signal, and the channel is converted from the first channel to the second channel after the deviation is less than a predetermined value. **Neither Tsuria nor Suh teaches, discloses or suggests** the channel is converted from the first channel to the second channel *after the deviation is less than a predetermined value*.

The Office Action contends that Suh teaches the above feature by referring to "the first portion of the video stream is determined to be stable when the difference between the first reduced frame and the second reduced frame does not exceed the first threshold, such that the sample frame is a visual representation of said plurality of frames in the first portion (claim 2 in Suh)".

In Suh, the recitation teaches a method of determining whether the image signal (video stream) is stable. However, Tsuria and Suh do not teach or suggest "the channel is converted from the first channel to the second channel *after the deviation is less than*

*a predetermined value*". In other words, the condition of the deviation having to be less than a predetermined value before converting channel is not disclosed. Therefore, the method that the channel is converted from the first channel to the second channel *after the deviation is less than a predetermined value* is not suggested in Tsuria and Suh.

For this additional reason, claim 13 is allowable over the cited references.

### **New claims**

The newly added claims define novel combinations, which define over the prior art. The new claim 20 recites, in part, "sending the channel conversion request to the transmitting system wirelessly". This limitation is not taught by the cited reference.

The new claim 21 recites, in part, "the receiving module receives the channel conversion request wirelessly". This limitation is not taught by the cited reference.

The new claim 22 recites, in part, "stopping compressing the digitized first image signal when stopping transmitting the first image". This limitation is not taught by the cited reference.

The new claim 23 recites, in part, "the image encoding device stops compressing the digitized first image when stopping transmission of the first image signal". This limitation is not taught by the cited reference.

### **Conclusion**

For the foregoing reasons, all pending claims 1-23 are in condition for allowance. Withdrawal of the rejections and allowance of the claims, as now amended, are respectfully requested. Applicant has made every effort to place the present application in condition for allowance. It is therefore earnestly requested that the present



application, as a whole, receive favorable consideration and that all of the claims be allowed in their present form.

A credit card authorization is provided to cover the fee for the additional claims. No additional fee is believed to be due in connection with this submission. If, however, any additional fee is believed to be due, you are hereby authorized to charge any such fee to deposit account No. 20-0778.

Respectfully submitted,

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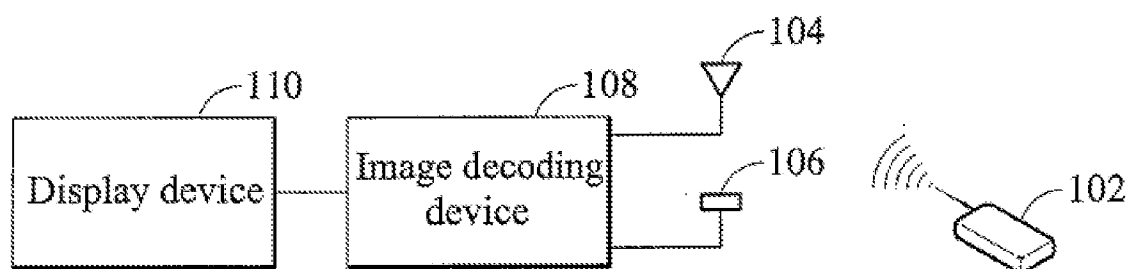


FIG. 1a (PRIOR ART)

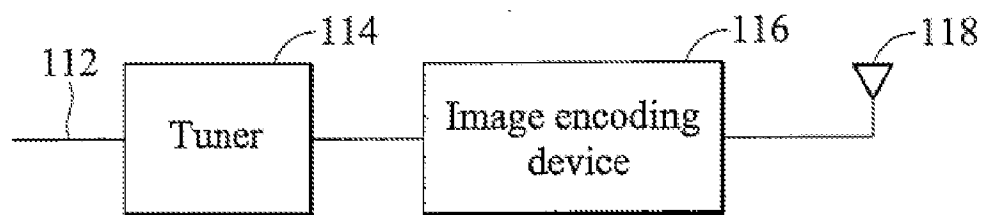


FIG. 1b (PRIOR ART)